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|  | **Interpretation of electron micrographs to identify organelles and deduce the function of specialised cells** |
| **Identify the organelles from the following electron micrographs.** | |
| http://emp.byui.edu/wellerg/The%20Cell%20Lab/Images/Eukaryotic%20Cell/mitochondria%2002.jpg |  |
| http://static.enotes.com/images/microbiology/wmi_02_img0116.jpg |  |
| external image tem3.jpg |  |
| http://ts4.mm.bing.net/th?id=HN.608033091396635055&pid=1.7 |  |
| http://www.cytochemistry.net/cell-biology/cilia7.jpg |  |
| http://www.doctortee.com/dsu/tiftickjian/cse-img/botany/plant-anat/cell/chloroplast-tem.jpg |  |
| **Have a guess at the function of these cells from the micrographs and descriptions.** | |
| http://www.pathologyoutlines.com/images/salivary/01_21.jpg | These cells from the mouth are producing a lot of vesicles filled with a protein. |
| http://www.biologie.uni-hamburg.de/b-online/library/webb/BOT410/anatweb/images/ParColSclr/WholCelChlPlastNucWall400.jpg | Plant cells with lots of chloroplasts |
| [http://1.bp.blogspot.com/-WGspbEtlkls/TgCUbtp7_-I/AAAAAAAAAJw/SoIp2vXzH4E/s320/Figure+2-26.bmp](http://1.bp.blogspot.com/-WGspbEtlkls/TgCUbtp7_-I/AAAAAAAAAJw/SoIp2vXzH4E/s1600/Figure+2-26.bmp) | A cell with a lot of mitochondria and four lysosomes. |

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| **EASBfigl01**    **\_\_\_\_\_\_\_\_\_**  5μm  1) Label the structures A-H   |  |  |  |  | | --- | --- | --- | --- | | A | B | C | D | | E | F | G | H |   2) Calculate the magnification of the diagram.  3) Calculate the diameter of the nucleolus  4) Calculate the length of G.  EASBfigl01  **\_\_\_\_\_\_\_\_\_\_\_**  40μm  5) List three feature seen in plant cells but not animal cells.  i) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  ii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  iii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_  6) Calculate the magnification of the cell.  7) Calculate the width of the chloroplast.  8) Which of the following structures are present in **both** plant and animal cells?  I. Cell wall  II. Chloroplast  III. Mitochondrion  A. I only  B. I and II only  C. I and III only  D. III only |
| 9) If a *Sequoia sempervirens* tree is 100 m tall and a drawing of it is 100 mm tall, what is the magnification of the drawing?  A. ×0.001  B. ×0.1  C. ×1.0  D. ×1000  10) A red blood cell is 8 μm in diameter. If drawn 100 times larger than its actual size, what diameter will the drawing be in mm?  A. 0.08 mm  B. 0.8 mm  C. 8 mm  D. 80 mm  11) If a mitochondrion has a length of 5 µm and a student’s drawing of the mitochondrion is 10 mm, what is the magnification of the drawing?  A. ×0.0005  B. ×0.5  C. ×200  D. ×2000 |